REMARKS

In view of the above amendments and the following remarks, favorable reconsideration of the outstanding Office action is respectfully requested.

Claims 1 and 20 are currently amended. Originally filed claims 2-10, 12 and 13 remain in the application. Claims 14-19 have been previously canceled. Claims 21-30 have been previously presented.

1. Rejections under 35 U.S.C. § 103

1.1. Rejections of claims 1-13

The Examiner has rejected these claims under 35 U.S.C. § 103(a) as being unpatentable over Fleming, Jr. et al. (United States Patent No. 4,011,006) in view of Gouskov et al. (United States Patent No. 6,253,580).

The Examiner asserted that

> Fleming discloses a method of making glass suitable for incorporation in devices such as lenses and optical transmission lines (Col. 1, lines 10-13). Fleming's method, as best shown in Figure 3, comprises passing silica powder into a plasma to thus produce and deposit silica particles onto a rotating horizontal depositing surface. Fleming is silent depositing and consolidating the particles at the same time. However, Gouskov teaches that depositing and consolidating the silica into one single step in chapter than a multi-stage process that requires a separate deposition and consolidation steps (Col. 3 lines 15-17 and Col. 6, lines 61-65).

Claim 1 is amended herein to further limit the method to a "method of making fused silica for use in photolithography at shorter than 193 nm." Note that the present invention is primarily described in the context of photolithography at 157 nm.

Fleming, Jr. et al. and Gouskov et al. are not concerned with fused silica materials for use in photolithography at shorter than 193 nm. Rather, both are concerned with applications such as optical fibers.

Even though Fleming, Jr. et al. in the relevant parts as pointed out by the Examiner asserts that the method can be used for producing high quality optical glasses suitable for incorporation in devices such as lenses and optical transmission lines, the glasses produced as disclosed therein cannot be used in photolithography at shorter than 193 nm, such as at 157 nm, given the high concentration of dopants such as GeO_2, B_2O_3 and the like. Again, as pointed out by Applicant supra, the glasses concerned in this reference are primarily for telecommunication

applications such as optical fibers. It is quite clear that Gouskov is concerned with the production of optical fiber as well. It is stated in the first paragraph of Gouskov that "[t]he present invention relates to methods for making optical fiber preform starter tubes ("starter tubes"), and optical fiber preforms." In addition, the method involved in this reference does not involve the deposition of silica particles onto a horizontal rotating surface. It is well known that the glass for optical fiber contains necessary dopants in order to achieve the desired optical properties. Those dopants normally render the glass inappropriate for lithographic applications at shorter than 193 nm.

Applicant submits that the fused silica glasses for use in photolithography at shorter than 193 nm are required to have an extremely high purity with very low level of impurities and dopants, usually on the ppb scale. Such property requirements translate into process of making which is subject to very stringent conditions. In the light of the teachings of Fleming, Jr. et al. and Gouskov et al., one of ordinary skill in the art would not be able to arrive at the process of claim 1 of the present application, as amended herein.

As for claim 2, the Examiner pointed out that "Fleming's powder size ranges from mesh size 20 to 100, which corresponds to a particle size range of 149 mm to 841 micrometers."

Claim 2 is dependent from claim 1, as amended. Thus claim 2 should be automatically patentable over Fleming, Jr. et al. in view of Gouskov et al., for substantially the same reason. Further, claim 2 of the present application recites a powder size ranging from 0.1 to 300 μm, which is substantially smaller than the disclosed range of the Fleming, Jr. et al. Therefore, claim 2 is not obvious over Fleming, Jr. et al. and Gouskov et al. for this additional reason.

Claims 3-13 are dependent from claim 1, as amended herein. As such, they should be patentable over Fleming, Jr. et al. in view of Gouskov et al. for substantially the same reason.

1.2. Rejections of claims 20-30

The Examiner has rejected claims 20-30 under 35 U.S.C. § 103(a) as being unpatentable over Fleming, Jr. et al. in view of Gouskov et al. further in view of the Examiner's official notice.

Applicant has amended claim 20 by further limiting the method to a "method of making fused silica based photomask blank for use in photolithography at shorter than 193 nm."

For substantially the same reasons enumerated for the patentability of claim 1, as amended, of the present application, this rejection is traversed, with the above amendments duly taken into consideration.

2. Conclusion

In view of the above amendments, remarks and papers of record in the present application, Applicant believes that the pending claims in the present application are in allowable form. Applicant respectfully requests the Examiner to promptly issue a Notice of Allowance thereon.

Applicant believes that no extension of time is required to make this reply to the outstanding Office action timely. Should Applicant be in error, Applicant respectfully requests the Office to grant the additional time necessary to render this reply timely under 37 C.F.R. 1.136 (a). Applicant, through counsel, hereby authorizes the Office to charge any required fee for the time extension to Deposit Account No. 03-3325.

The undersigned attorney is granted limited recognition by the Office of Discipline and Enrollment of the USPTO to practice before the USPTO in capacity as an employee of Corning Incorporated. A copy of the document granting such limited recognition either has been previously submitted or is submitted herewith for the record.

Please direct any questions or comments to the undersigned at (607) 248-1253.

Respectfully submitted,

DATE: June 22, 2004

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